

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 12-18 are presented for consideration in lieu of claims 1-11, which have been canceled without prejudice or disclaimer. Claim 12 is the sole independent claim. Support for these claims can be found in the original application, as filed. Accordingly, no new matter has been added.

Applicant requests favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 1, 5-7 and 9 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,665,865 to Zubrod. Claims 2 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Zubrod patent in view of U.S. Patent No. 4,355,602 to Cooke. Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Zubrod patent in view of U.S. Patent No. 5,050,542 also to Cooke. Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Zubrod patent in view of U.S. Patent No. 5,870,976 again to Cooke. Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Zubrod patent in view of U.S. Patent No. 5,281,398 to Hyppanen et al. Applicant submits that the cited art, whether taken individually or in combination, does not teach or suggest many features of the present invention, as previously recited in claims 1-11. Therefore, these rejections are respectfully traversed. Nevertheless, Applicant submits that independent claim 12, for example, as presented, amplifies the distinctions between the present invention and the cited art.

Independent claim 12 recites an arrangement in a circulating fluidized bed reactor system. The arrangement includes a reaction chamber, having a fluidized bed of solid particles therein, and which is defined by a ceiling, a bottom, and walls, which are at least partially formed by water tube panels, a device for introducing fluidizing gas into the reaction chamber, at least two discharge openings arranged in the walls of the reaction chamber for removing a particle suspension of exhaust gases and solid particles from the reaction chamber, and at least two particle separators connected to the discharge openings, for separating the solid particles from the particle suspension, each of the particle separators having a gas discharge opening in an upper part thereof, for discharge of cleaned exhaust gases. Each of the gas discharge openings is connected to a discharge duct. The arrangement further includes a heat recovery section, to which the cleaned exhaust gases are directed, and a gas plenum, defined by an enclosure including a ceiling, a bottom, and walls positioned above and integrated with the reaction chamber, for directing the cleaned exhaust gases discharged from the at least two particle separators to the heat recovery section. The gas plenum is provided with at least two exhaust gas inlet openings arranged in the walls thereof for receiving the cleaned exhaust gases from the discharge ducts of the at least one particle separator and directing the cleaned exhaust gases to the gas plenum. The gas plenum also is connected to a connecting channel downstream of the gas plenum for leading the cleaned exhaust gases from the gas plenum to the heat recovery section. The enclosure of the gas plenum is formed by water tube panels as extensions of the water tube panels of the reaction chamber, and the gas plenum is divided into at least two separate chambers by at least one partition that is formed by at least one water tube panel as an extension of at least one of the water tube panels of the reaction chamber.

By such an arrangement, the present invention provides a compact construction, which is rigid and durable, without the need for separate supports.

Applicant submits that the cited art, whether taken individually or in combination, does not teach or suggest the invention as recited in independent claim 12.

The Examiner considers the Zubrod patent to show a fluidized bed apparatus that includes a reaction chamber, means for introducing fluidizing gas, at least one discharge opening for removing a particle suspension of exhaust gases and solid particles from the reaction chamber, at least one particle separator connected to the discharge opening, a heat recovery section and a gas plenum. Applicant notes that the Zubrod patent shows a cross-flue, formed above a reaction chamber by pipe walls, leading flue gases from a particle separator to a heat recovery section. Some rear and front wall pipes of the reaction chamber are bent to an intermediate ceiling of the reaction chamber and then form pairs providing vertical suspensions intersecting the cross-flue for supporting the intermediate ceiling. Thus, the cross-flue in the Zubrod patent is intersected by a large number of separate vertical suspensions. Applicant submits that such suspensions do not improve the overall rigidity of the construction, and they are difficult to protect by refractory lining. Applicant submits, therefore, that the arrangement in the Zubrod patent does not teach or suggest salient features of Applicant's present invention, as recited in independent claim 12, including the compact construction, which is rigid and durable without separate supports.

Applicant further submits that the remaining art does not cure the deficiencies noted above with the Zubrod patent.

The Examiner relies on the Cooke '602 patent for teaching an arrangement in which at least a portion of a bottom and of the walls of an enclosure is formed in such a way that an

extension of a water tube panel that forms a first one of the walls of another enclosure is bent in a particular manner.

The Examiner relies on the Cooke '542 patent for teaching an arrangement in which at least a portion of the bottom and the walls of an enclosure, for example, defining the uppermost chamber, are formed in such a way that extensions of the water tube panels that forms two opposite walls of another enclosure are bent in a particular manner.

The Examiner further relies on the Cooke '976 patent for teaching an arrangement in which the water tube panel that forms a first one of the walls of an enclosure, that is, defining the bottom-most chamber, includes first and second water tubes and at least a portion of the water tube panel that forms the bottom of another enclosure, that is, the chamber located immediately above the bottom-most chamber, is formed as an extension of the water tubes of the water tube panel that forms the first wall of the enclosure.

The Examiner relies on the Hyppanen et al. patent for teaching an apparatus that includes at least three particle separators.

Applicant submits, however, that none of the Cooke patents or the Hyppanen et al. patent teaches or suggests salient features of Applicant's present invention, as recited in independent claim 12, which have been discussed above. Accordingly, those patents add nothing to teachings of the Zubrod patent that would render obvious Applicant's present invention, as recited in independent claim 12.


For the foregoing reasons, Applicant submits that the present invention, as recited in independent claim 12, is patentably defined over the cited art, whether that art is taken individually or in combination.

Dependent claims 13-18 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claim 12. Further individual consideration of these dependent claims is requested.

Applicant submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are also requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Steven E. Warner", is written over a horizontal line.

Attorney for Applicant
Steven E. Warner
Registration No. 33,326

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200

SEW/eab

DC -250313_1